

SECTION V-B - FM BROADCAST ENGINEERING DATA	FOR COMMISSION USE ONLY File No. _____ SSB Referral Date _____ Referred By _____
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Name of Applicant _____

Call Letters <i>(if issued)</i>	Is this application being filed in response to an application <input type="checkbox"/> Yes <input type="checkbox"/> No filing window? If Yes, specify closing date: _____
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Purpose of Application: *(check appropriate boxes)*

- | | |
|--|--|
| <input type="checkbox"/> Construct a new (main) facility
<input type="checkbox"/> Modify existing construction permit for main facility
<input type="checkbox"/> Modify licensed main facility | <input type="checkbox"/> Construct a new auxiliary backup facility
<input type="checkbox"/> Modify existing construction permit for auxiliary backup facility
<input type="checkbox"/> Modify licensed auxiliary backup facility |
|--|--|

If purpose is to modify, indicate below the nature of change(s) and specify the file number(s) of the authorizations affected.

- | | |
|---|---|
| <input type="checkbox"/> Antenna supporting structure height
<input type="checkbox"/> Antenna height above average terrain
<input type="checkbox"/> Antenna location
<input type="checkbox"/> Main Studio location per 47 C.F.R. Section 73.1125(b)(2)
<input type="checkbox"/> Directional Antenna | <input type="checkbox"/> Effective radiated power
<input type="checkbox"/> Frequency
<input type="checkbox"/> Class
<input type="checkbox"/> One-Step processing
<input type="checkbox"/> Other(<i>summarize briefly</i>) |
|---|---|

File Number(s) _____

1. Allocation:				Class <i>(check only one box below)</i>					
Channel No.	Principal community to be served:								
	County	City or Town	State						
						<input type="checkbox"/> A	<input type="checkbox"/> B1	<input type="checkbox"/> B	<input type="checkbox"/> C3
						<input type="checkbox"/> C2	<input type="checkbox"/> C1	<input type="checkbox"/> C	

2. Exact location of antenna.

(a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark.

(b) Geographical coordinates *(to nearest second)*. If mounted on element of an AM array, specify coordinates of center of array. Otherwise, specify tower location. Specify South Latitude and East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed. *(The Commission requires coordinates based on NAD 27.)*

Latitude ° ' "	Longitude ° ' "
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3. Will the antenna be mounted on an antenna structure which has been registered with the Commission? ☐ Yes ☐ No

If Yes, provide the seven digit registration number and proceed to item 8. _____

4. Has the owner of the antenna structure filed an application for registration with the Commission? ☐ Yes ☐ No

If yes, provide the date FCC Form 854 was filed and proceed to item 8. _____

5. Applicant certifies that antenna structure meets 6.10 meter (20 feet) exception rule and therefore does not require registration. In other words, the overall height of the entire structure is not more than 6.10 meters (20 feet) above the ground or the antenna does not extend more than 6.10 meters (20 feet) above a man-made structure (structure built for a purpose other than mounting an antenna, i.e., building, water tank, silo, fire tower, etc.). ☐ Yes ☐ No

If yes, skip items 6 and 7.

6. Antenna structure will be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town or settlement where it is evident beyond all reasonable doubt that the structure is so shielded that it will not adversely affect safety in air navigation. ☐ Yes ☐ No

If yes, submit as an Exhibit a detailed explanation and/or diagram to support your claim and skip to item 8.

Exhibit No. _____

7. Antenna structure does not meet FAA notification criteria as defined under 47 C.F.R. Section 17.7 and therefore does not require registration. ☐ Yes ☐ No

8. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)? ☐ Yes ☐ No

If Yes, give call letter(s) or file number(s) or both. _____

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any. _____

9. Does the application propose to correct previous site coordinates? ☐ Yes ☐ No
If Yes, list old coordinates.

Latitude	°	'	"	Longitude	°	'	"
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10. Has the FAA been notified of the proposed construction? ☐ Yes ☐ No

If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available.

Exhibit No. _____

Date _____ Office where filed _____

11. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

	Landing Area	Distance (km)	Bearing (degrees True)
(a)	_____	_____	_____
(b)	_____	_____	_____

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12. (a) Elevation: *(to the nearest meter)*

(1) Of the site above mean sea level; _____ meters

(2) Of the top of supporting structure above ground *(including antenna, all other appurtenances, and lighting, if any)*; and _____ meters

(3) Of the top of supporting structure above mean sea level [(a)(1) + (a)(2)]. _____ meters

(b) Height of radiation center: *(to the nearest meter)* H = Horizontal; V = Vertical

(1) Above ground; _____ meters (H)

_____ meters (V)

(2) Above mean sea level [(a)(1) + (b)(1)]; and _____ meters (H)

_____ meters (V)

(3) Above average terrain. _____ meters (H)

_____ meters (V)

13. Attach as an Exhibit sketch(es) of the supporting structure, labeling all elevations required in Question 12 above, except item 12(b)(3). If mounted on an AM directional array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No.

14. Effective Radiated Power:

(a) ERP in the horizontal plane _____ kw (H*) _____ kw (V*)

Is beam tilt proposed?

☐ Yes ☐ No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevation plot of radiated field.

Exhibit No.

_____ kw (H*) _____ kw (V*)

*Polarization

15. Is a directional antenna proposed?

☐ Yes ☐ No

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s), and tabulations of horizontally and vertically polarized radiated components in terms of relative field.

Exhibit No.

16. Will the main studio be located within the 70 dBu or 3.16 mV/m contour?

☐ Yes ☐ No

If No, attach as justification an Exhibit pursuant to 47 C.F.R. Section 73.1125.

Exhibit No.

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17. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast (*except citizens band or amateur*) radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any protected or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference? ☐ Yes ☐ No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. (*See 47 C.F.R. Section 73.315(b), 73.316(d) and 73.318.*)

Exhibit No. _____

18. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction D for Section V. Further, the map must clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No. _____

19. Attach as an Exhibit (name the source) a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No. _____

- (a) The proposed transmitter location, and the radials along with profile graphs have been prepared;
- (b) The 1 mV/m predicted contour and, for noncommercial educational applicants applying on a commercial channel, the 3.16 mv/m contour; and
- (c) The legal boundaries of the principal community to which the station is or will be licensed.

20. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mv/m contour.

Area _____ sq. km. Population _____

21. Attach as an Exhibit a map (*Sectional Aeronautical charts where obtainable*) showing the present and proposed 1 mv/m (60 dbu) contours.

Enter the following from Exhibit above:

Gain Area	_____ sq. km.
Loss Area	_____ sq. km.
Present Area	_____ sq. km.

Percent change (gain area plus loss area as divided by present area times 100%) _____

If 50% or more, this constitutes a major change. Indicate in question 2(c), Section 1, accordingly.
See 47 C.F.R. Section 73.3573(a)(1).)

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22. For an application involving an auxiliary backup facility only, attach as an Exhibit a map (*Sectional Aeronautical Chart or equivalent*) which shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.

- (a) the proposed auxiliary 1 mv/m contour; and
- (b) the 1 mv/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license. See 47 C.F.R. Section 73.1675.

File No. _____

23. Terrain and coverage data (*to be calculated in accordance with 47 C.F.R. Section 73.313*)

Source of terrain data: (*check only one box below*)

- ☐ Linearly interpolated 30-second database ☐ 7.5 minute topographic map

(Source: _____)

- ☐ Linearly interpolated 3-second database ☐ Other (summarize)

Are more than eight radials being used to calculate HAAT? ☐ Yes ☐ No

If Yes, specify how many radials are being used. Please note the radials must be evenly spaced and start with the 0 degree radial. _____

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances to the 1 mV/m contour (kilometers)	If operating on Commercial Channel 3.16 mv/m contour (kilometers)
0			
45			
90			
135			
180			
225			
270			
315			

Allocation Studies

(*See Subpart C of 47 C.F.R. Part 73*)

24. Is the proposed antenna location within 320 kilometers (199 miles) of the common border between the United States and Mexico? ☐ Yes ☐ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Agreement between the United States of America and the United Mexican States concerning Frequency Modulation Broadcasting in the 88 to 108 MHz band.

Exhibit No.

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25. Is the proposed antenna location within 320 kilometers of the common border between the United States and Canada? ☐ Yes ☐ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Working Agreement for Allocation of FM Broadcasting Stations on Channels 201-300 under the Canada-United States FM Agreement of 1947.

Exhibit No.

26. If the proposed operation is for a full service or Class D facility for a channel in the range from Channel 201 through 220 (88.1 through 91.9 MHz), or if this proposed operation is for a Class D station in the range from Channel 221 through 300 (92.1 through 107.9 MHz), attach as an Exhibit a complete allocation study to establish the lack of prohibited overlap of contours with other U.S. stations. The allocation study should include the following:

Exhibit No.

- (a) The normally protected interference-free and the interfering contours for the proposed operation along all azimuths;
- (b) Complete normally protected interference-free contours of all other proposals and existing stations to which objectionable interference would be caused;
- (c) Interfering contours over pertinent arcs of all other proposals and existing stations from which objectionable interference would be received;
- (d) Normally protected and interfering contours over pertinent arcs, of all other proposals and existing stations, which require study to show the absence of objectionable interference;
- (e) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers and operating or proposed facilities;
- (f) When necessary to show more detail, an additional allocation study will be attached utilizing a map with a larger scale to clearly show interference or absence thereof;
- (g) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified; and
- (h) The name of the map(s) used in the Exhibit(s).

27. With regard to any stations separated by 53 or 54 channels (10.6 or 10.8 MHz), attach as an Exhibit information required in 1/ (separation requirements involving intermediate frequency (i.f.) interference).

Exhibit No.

28. (a) Is the proposed operation on Channel 218, 219 or 220? ☐ Yes ☐ No
- (b) If the answer to (a) is Yes, does the proposed operation satisfy the requirements of 47 C.F.R. Section 73.207? ☐ Yes ☐ No

- (c) If the answer to (b) is Yes, attach as an Exhibit information required in 1/ regarding separation requirements with respect to stations on Channels 221, 222 and 223.

Exhibit No.

- (d) If the answer to (b) is No, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose.

Exhibit No.

1/ A showing that the proposed operation meets the minimum distance separation requirements of 47 C.F.R. Section 73.507. Include existing stations, proposed stations, and cities which appear in the Table of Allotments; the location and geographic coordinates of each antenna, proposed antenna or reference point, as appropriate; and distance to each from proposed antenna location.

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- (e) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following:

Exhibit No.

- (1) Protected and interfering contours, in all directions (360 degrees), for the proposed operation;
- (2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as transmitter location;
- (3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur;
- (4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s) (Sufficient lines should be shown so that the location of the sites may be verified.); and
- (5) The official title(s) of the map(s) used in the Exhibit(s).

29. Is the proposed station for a channel in the range from Channel 201 to 220 (88.1 through 91.9 MHz) and the proposed antenna location within the distance to an affected TV Channel 6 station(s) as defined in 47 C.F.R. Section 73.525?

☐ Yes ☐ No

If Yes, attach as an Exhibit either a TV Channel 6 agreement letter dated and signed by both parties or a map and an engineering statement with calculations demonstrating compliance with 47 C.F.R. Section 73.525 for each affected TV Channel 6 station.

Exhibit No.

30. Is the proposed station for a channel in the range from Channel 221 to 300 (92.1 through 107.9 MHz)?

☐ Yes ☐ No

If Yes, attach as an Exhibit information required in 1/. (Except for Class D (secondary) proposals.)

Exhibit No.

31. Environmental Statement. (*See 47 C.F.R. Section 1.1301 et seq.*)

- (a) Would a Commission grant of this application come within 47 C.F.R. Section 1.1307, such that it may have a significant environmental impact?

☐ Yes ☐ No

If you answer Yes, submit as an Exhibit an Environmental Assessment required by 47 C.F.R. Section 1.1311.

Exhibit No.

- (b) If No, explain briefly why not.

- (c) Pursuant to OST/OET Bulletin No. 65, the applicant must explain in an Exhibit what steps will be taken to limit the RF radiation exposure to the public and to persons authorized access to the tower site. In addition, where there are multiple contributors to radiofrequency radiation, you must certify that the established RF radiation exposure procedures will be coordinated with all stations.

CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed)	Relationship to Applicant (e.g., Consulting Engineer)
Signature	Address (include ZIP Code)
Date	Telephone No. (include Area Code)